What Your Landfill Permit Permits
. . . and how to comply with it.

Presented by :

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Background – Landfill X

- Premature landfill closure
  - Permit issued January 1998; the design projected 14 year site life.
  - Trench-fill design
  - Contractor operated for 3 years; by July 2000, 7 of the 11 cells had been used.

Capacity Survey Requirement

- In 2002 the SEC amended NAC 444.702 to require municipal landfills to conduct topographic surveys and submit capacity reports to the NDEP every 5 years.
  - Allows NDEP to verify compliance.
  - Allows operator to assure future capacity and evaluate efficiency.
  - Commercial operations (Lockwood & Apex) do fly-overs at least annually.

Results of Capacity Surveys

- Due December 31, 2003
- Of those reviewed, a few surveys show waste disposal outside of the permitted footprint; some capacity reports have over-optimistic site life estimates.
- Indications that some landfill operators are not familiar with their permits.

Value of a Landfill Permit

- Allows use of the landfill, a valuable community asset.
  - Thousands of $ in consulting/engineering fees
  - Valuable real estate
  - Guide to efficient use of resources:
    - Space -- Equipment
    - Labor -- Fuel
- Permit belongs at the landfill, not just in the municipal archives.

What is a landfill permit?

- One or two page document issued by NDEP plus. . .
- All permit application documents, usually in one or two large 3-ring binders with full-size drawings.

Permit Application

- Shows how the facility will comply with municipal landfill criteria:
  - Location
  - Design
  - Groundwater monitoring
  - Operations
  - Closure
  - Post-closure care
  - Financial assurance

Permit elements interrelated

- Operation (waste placement) outside the footprint changes the design
- Change in footprint or profile changes closure plan
- Change in closure plan changes financial assurance cost estimates
- Any of the above changes trigger at least a permit modification and possibly a new application
- There is no guarantee that modifications will be approved

NAC 444.680 Report of design

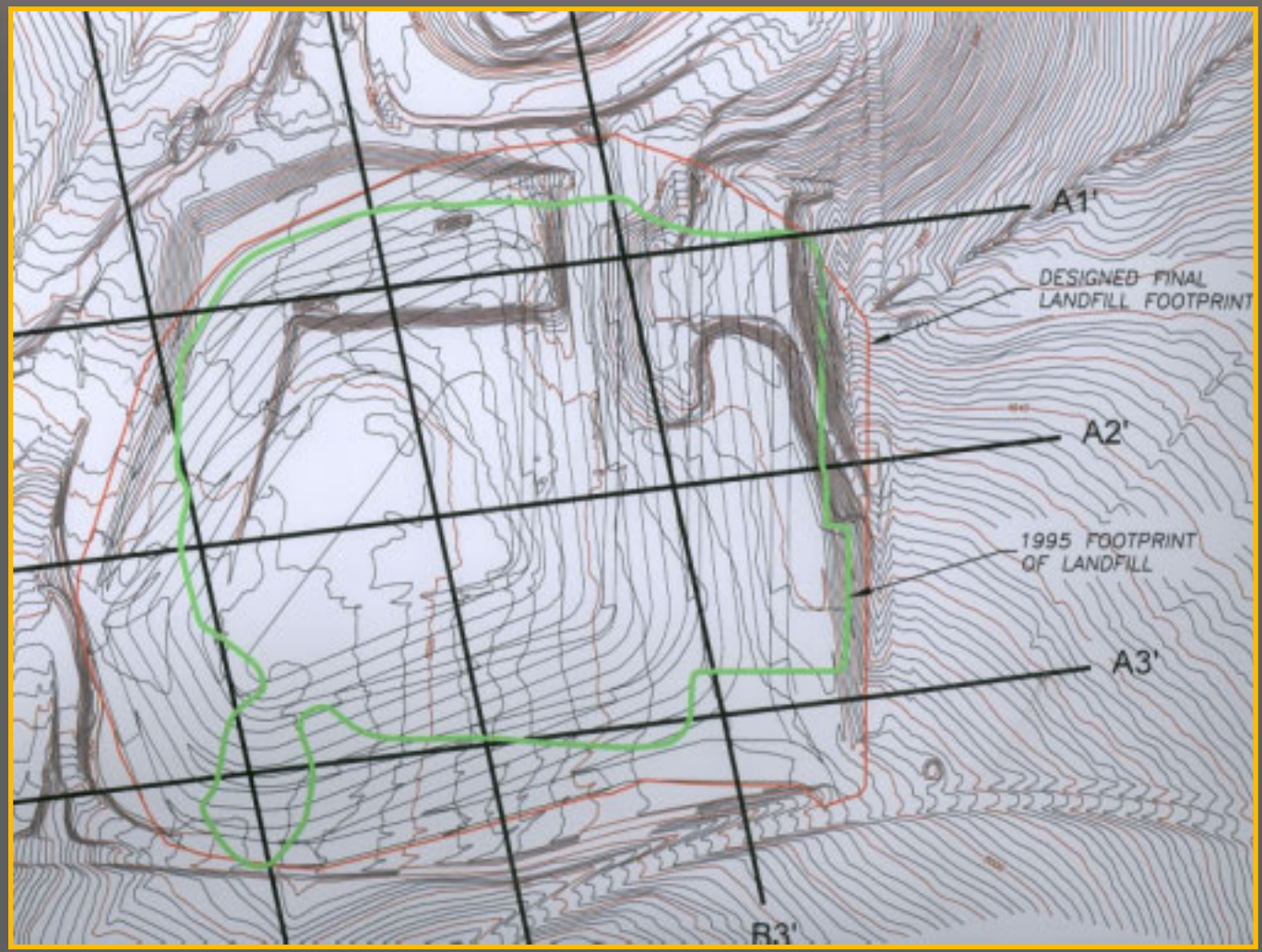
- Include plans and specifications of the facility which..provide a clear understanding of the development of the site.

Important Elements of the Design

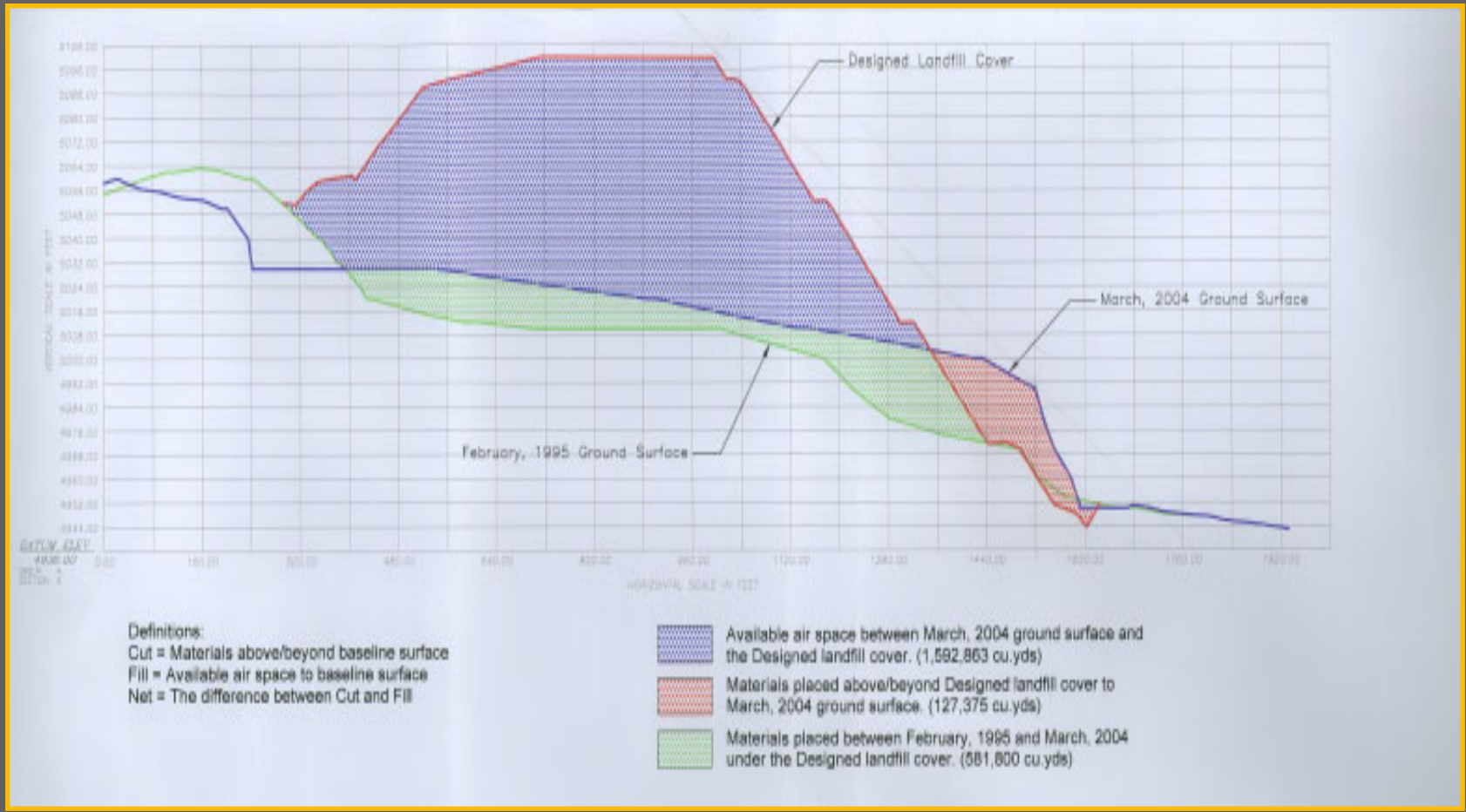
- Footprint
- Vertical Profile
  - Defines final topography, impacts slope stability
  - Impacts Run on-Run off control
- Together the Footprint and Vertical Profile determine Landfill Capacity

Permitted Footprint Over Original Topography

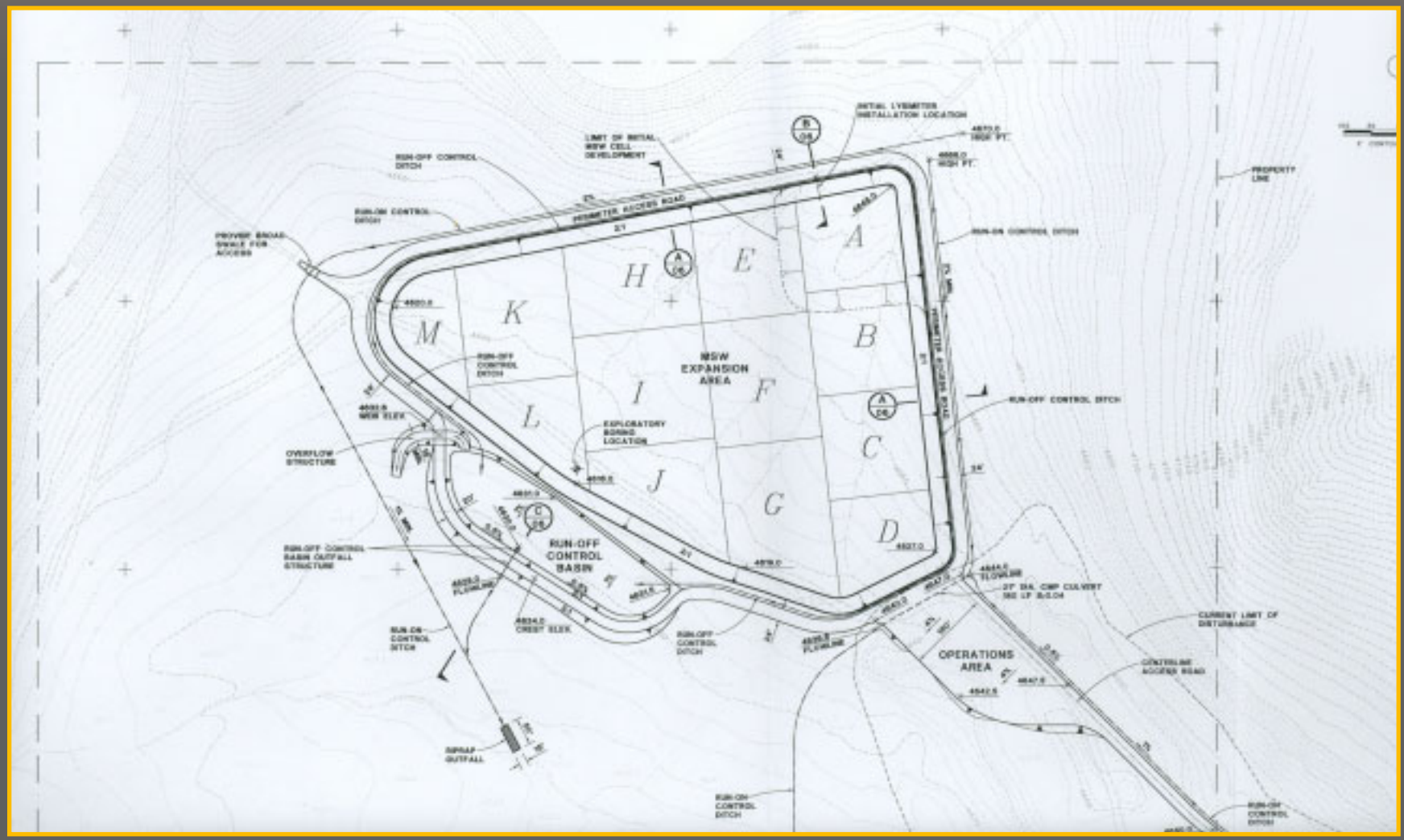
Permitted Footprint Over Current Topography



Vertical Profile: Design vs Actual



Trench Fill Landfills



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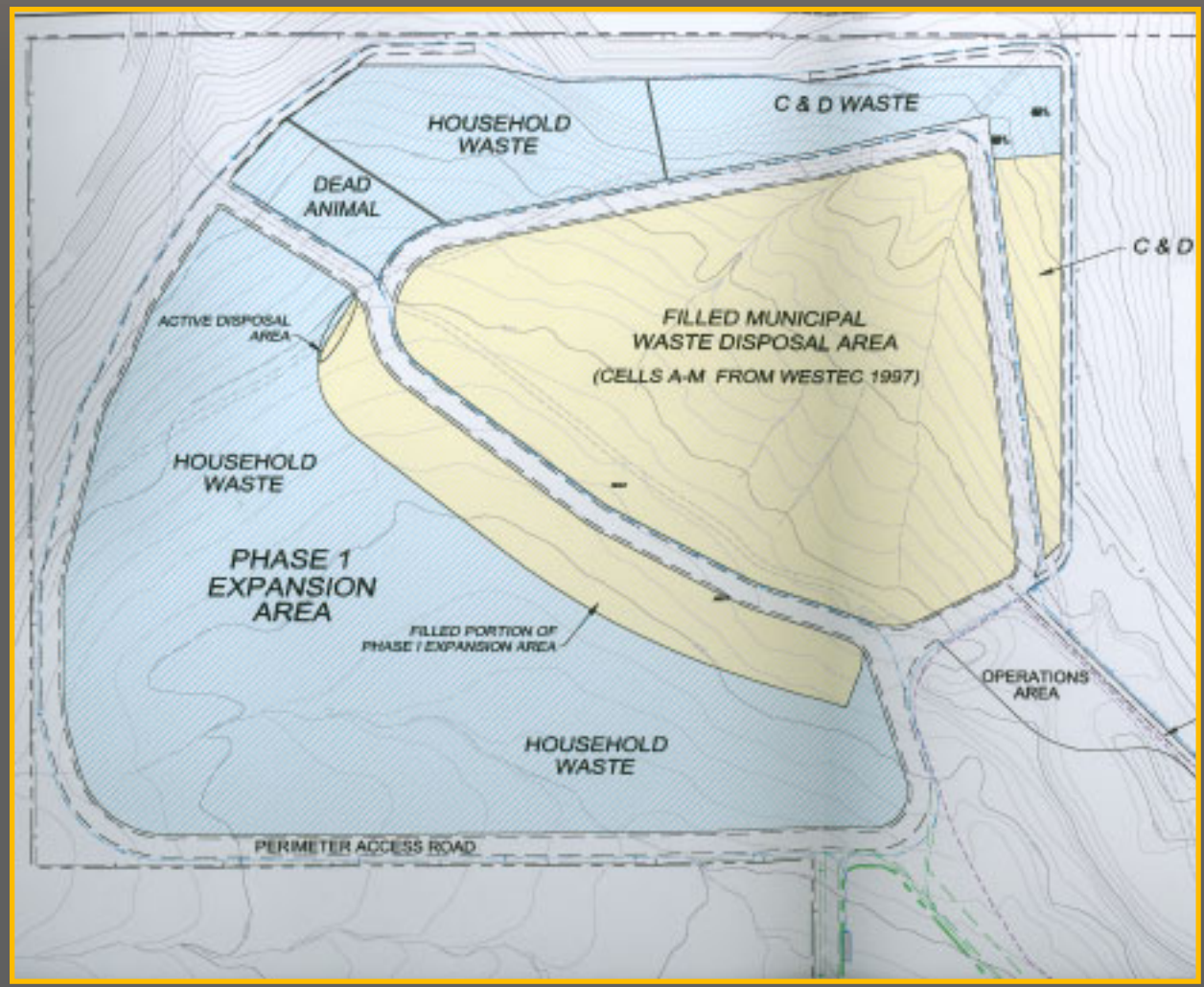

What Next ?

- Determine status of each landfill
- Develop plans to get errant landfills back in line with their designs and operating plans
- Help operators develop *and implement* methods to stay in compliance with design requirements.
- Owner / Operator contracts
  - Performance measures
  - Incentives / Penalties

Stay in compliance *AND* Get the most from your landfill

- Review design & operations plan with operators.
- Stake footprint boundary
- Know vertical profile and how it impacts operations
- Identify and correct problems early

Why Should Owners Care?

- The bottom line is $$$$
- Siting and designing new landfills is costly:
  - real estate, federal land issues
  - consulting fees, site suitability studies
- There may be additional requirements for new landfills that increase costs.

More Information

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